**Before the**
**FEDERAL COMMUNICATIONS COMMISSION**
**Washington, D.C. 20554**

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| In the Matter of | ) | |
| | ) | |
| Modernizing the E-rate Program for Schools and Libraries | ) | WC Docket No. 13-184 |
| | ) | |

## REPLY COMMENTS OF THE OHIO E-RATE CONSORTIUM

The Ohio E-Rate Consortium ("OERC") hereby submits these comments in response to the Notice of Proposed Rulemaking ("Notice" or "NPRM") released by the Federal Communications Commission ("FCC" or "Commission") in the above-captioned proceeding.[1] The OERC is composed of semi-public entities that provide telephone, internet, and high speed data to public and non-public K-12 schools through out Ohio.[2] Members of the Ohio E-Rate Consortium were providing telephony, internet and high speed data services to Ohio schools prior to the start of the E-rate program and continue to provide these services under the E-Rate program.

## I. INTRODUCTION AND SUMMARY

The E-rate program was created to provide access to telecommunication and the internet to K-12 schools and libraries. During the past 15 years the E-rate program has become much more focused and directed. Today, as recognized by the Commission, the E-rate program has become essential for learning and for the operation of modern schools and libraries.[3] Schools and libraries now require the E-rate program to take advantage of the digital learning opportunities necessary for a modern educational experience. As the FCC seeks to modernize the E-rate program it needs to do so consistent with these principles.

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[1] Modernizing the E-rate Program for Schools and Libraries, WC Docket No. 13-184, Notice of Proposed Rulemaking, FCC 13-100 (rel. July 23, 2013) ("Notice" or "NPRM").
[2] The OERC entities submitting comments are Regional Council of Governments, established under Ohio Revised Code § 167 for the purpose of participation in the Ohio Education Computer Network (*See* List of Commenters at Exhibit I).
[3] *NPRM* at para. 1.

OERC will limit its Reply Comments to four areas:

1. First and foremost OERC will provide additional information in support of the FCC continuing to fund wireless access within a school as a Priority One service;
2. Two areas where the process could be more efficient;
3. Multi-year contracts; and
4. Payment issues.

## II. WIRELESS ACCESS WITHIN THE SCHOOL SHOULD CONTINUE TO BE PRIORITY ONE.

### A. Wireless Access Within the School Is Permitted Under Current FCC Rules

The FCC currently permits funding of wireless access within the schools. Attached as Exhibit II are submissions previously made by OERC which support the proposition that wireless access is currently permitted under the FCC's rules as Priority One service. Since the creation of the dichotomy between Priority One Services and Priority Two Equipment, the primary determinants are whether the funding was to be used to support interconnection to the Internet, a service, or for equipment, which was not.[4] This distinction was rooted in the philosophy that the primary purpose of the E-rate funding was interconnection to telecommunications and the Internet. Training and end user equipment was to be paid for without E-rate funds. However, it was recognized that in limited circumstances, entities would not be able to afford the basic infrastructure within the school to deliver the internet service. Those limited circumstances were to be funded by E-rate after the service needs were met and were to be made available only to the highest priority users of E-rate funds.[5] So long as the Billed Entity can show that the funds requested for wireless access points will not be used to purchase internal equipment, funding has been permitted under priority one.

Wireless access connects devices directly to the Internet rather than to each other and therefore qualifies as Priority One. Wireless access has the same functionality as wired Internet service, which clearly is classified as Priority One. Really, the only difference between traditional

[4] *Fifth Order on Reconsideration*, 13 FCC Rcd 14915 (June 1998).
[5] When it comes down to it, the gravamen of the *Tennessee Test* comes down to whether the billed entity is seeking funding for services or equipment. The Billed Entity can only receive priority one funds when the Billed Entity is clearly not receiving funds for equipment (*i.e.,* Where the vendor owns controls and has paid for internal equipment).

classroom connections to the Internet is the use here of RF rather than hard wiring for the penultimate connection to the end-user device.

Moreover, wireless access service readily meets the definition of an eligible service because:

- Basic conduit access to the Internet is eligible regardless of technology platform so long as it provides for the transmission of information as part of a gateway to an information service, when the transmission does not involve the generation or alteration of the content of the information, but which may include data transmission, address translation, protocol conversion. billing management, and navigational systems that enable users to access information services;
- Wireless Internet Access to the Internet is eligible under the same provisions as wired access;
- Wireless Internet Access service designed for portable electronic devices is eligible if used for educational purposes and the off-campus use is removed from cost allocation and connected to the end-user device.

Since the wireless access service meets each of these criteria it has been treated as Priority One.

Wired Internet access has always been a Priority One service where the Service Provider provides basic Internet access from the Provider-owned DMARC switch through a.) the Billed Entity-owned LAN switch, b.) through the Billed Entity-owned internal wiring, and c.) through non-E-rated equipment such as a router to a wired end-user device. Wireless access service provides gateway conduit service in exactly the same way, except that the non-E-rated equipment attached to the Billed Entity-owned internal wiring is the device, which allows connection to wireless end-user devices. That is, the only differences in the services are that one service is wired all the way to the end-user equipment whereas the other service uses a wireless connection to the end-user.

Therefore wireless access service is explicitly permitted by the ESL as a Priority One service so long as no E-rate funds are used to purchase any equipment used in the delivery of the gateway conduit to the Internet.

Finally, the Eligible Service list explicitly permits Mobile Hot Spots. The wireless access service provided by the OERC is functionally no different, except that it is dramatically more cost effective. As such the wireless access service has been also treated as a Priority One service.

**B. <u>Wireless Access should continue to be treated as a Priority One Service.</u>**

OERC joins PCIA, The SHLB Coalition, Comcast, Broadcore, General Communications, Cisco, and others in urging the Commission to continue funding wireless access within the schools as a Priority One Service. The ability of Schools to fulfill their educational function in a manner most conducive to student learning is fundamental to the E-Rate program. As pointed out by many comments, access to individual devices used by students has become essential for a modern day education system. This can only be provided efficiently through managed wireless access through the schools. Schools may or may not need telephones in the schools to effectively teach, but they cannot meet current testing and educational standards without wireless access to the student controlled devices (*i.e.* BYOD).

In Ohio, we have found the following to be true:

- All tablet devices that are in production require wireless to access the internet. This is due to the fact that they do not have an Ethernet port. Tablet devices are preferred for their portability and ease of use for all applications;
- Schools need robust, managed wireless Internet access to support: electronic text books, mobile laptop carts, tablet/Chromebook implementations, one-to-one computing initiatives, standardized testing (if using a mobile lab delivery model), online curricular and electronic resources;
- Measures of Academic Progress ("MAP") testing required by districts for grades K-7, Writing Practice Program ("WPP") testing required by the High Schools and Middle Schools, Partnership for Assessment of Readiness for College and Careers ("PARCC")(which starts in 2014), and the Smarter Balanced consortium[6] all depend on wireless access throughout the schools;
- Section 505 of the American Disability Act requires that students with intellectual disabilities be integrated into the class room when possible. The Department of Education specifically mentions strategies for presentation and methodology that suggest the need for changed instructional methods, visual instructions instead of oral, increased use of audio-visual resources, demonstrations, experiments, simulations, and games

[6] http://www.smarterbalanced.org

(http://doe.sd.gov/oess/documents/sped_section504_Guidelines.pdf). All of these things happen with technology in today's classrooms. All of these require the individual students to interface with individual devices. All of these require wireless access;

- Wireless technology makes access to important educational resources more seamless and allows schools to implement BOYD strategies and utilize modern devices while moving away from antiquated computer labs;
- To meet state requirements, schools are using hosted resources to conduct student assessments. Many of these assessments are mandatory. To properly conduct these assessment wireless access is needed throughout the school;
- In several districts within Ohio all high schools are wireless because of the BYOD program. More and more middle schools are wireless and the elementary schools are largely wireless to accommodate student use of netbooks and chrome books;
- To save costs and to provide the most current information, many schools are using online textbooks which require access to each student in the class;
- STAR (Renaissance place learning) is used by my many special education teachers for math and reading and is most effective with wireless devices so that the students can move at their own pace;
- Study Island, which is used in middle schools and high schools (and which is helpful in passing the Ohio Achievement Assessments ("OAA") and the Ohio Graduation Test("OGT")) works best with wireless access;
- Google apps are used extensively by students in grades 3-12 depends on wireless access to individual devices;
- Blackboard is used extensively to deliver classroom information and curriculum; and
- While Interactive Achievement is new this year, the assessments are moving on line for purposes of data collection and data analysis.

These Ohio specific examples add further weight to the information already provided by Comcast, Cisco and others. All of which, however, point to one central conclusion. For a modern day educational environment, wireless access in the schools to BYOD is essential. Such access goes to the heart of the E-rate program and its funding must continue.

## III. IMPROVED EFFICIENCY

### A. Audits and Reviews Need to be More Efficient and Consistent

There does not appear to be consistency from year to year or from one reviewer to another in the audits and reviews conducted by Schools and Libraries. Many Billed Entities are required for many years running to respond to the same questions concerning the same contracts from PIA reviewers. This is an extreme waste of Billed Entity, vendor, and Schools and Libraries' resources. Once a contract has passed review, there is no additional benefit, nor is there any reduction in waste fraud or abuse, by having the same contract reviewed every year of a multiple year contract. This problem is further exacerbated, when different reviewers over the years ask for different information concerning the same multi-year agreement. If Schools and Libraries would maintain the earlier responses, there should be no need to conduct the same review over the same contract terms repeatedly.

### B. The Funding Process Should More Closely Track the School Year

The OERC has experienced the same disconnect between funding and the need for funds as raised by Cox Communications in its Comments. All funding decisions need to be made by July 1 each year. This failure to issue funds in a timely manner makes it difficult for Billed Entities to make purchasing decisions on a normal fiscal year (academic year) schedule.

## IV. MULTIYEAR CONTRACT

OERC agrees with Cox, Century Link and others that multiyear contracts have the potential to drive down service costs, provide greater certainty, and minimize duplicative application and review work.

Three to five year contracts provide a good term for multiyear contracts. With 3-5 year terms the cost savings to Billed Entities are often substantial. Moreover, most middle mile providers of bandwidth demand 5 year agreements or they price one year contracts significantly higher. It is not unusual for the difference between a 3 and 5 year agreement to be in excess of 25 %. This is a substantial savings.

OERC would, however, discourage contracts greater than 5 years. The technology and demand curves change too rapidly to justify a contract of more than five years. OERC regularly sees substantial technology shifts during three year time periods. After 5 years the demand for bandwidth has historically been significantly greater and, because of the changes in technology, the cost per megabit often decreases substantially.

If the Commission continues to allow multi-year contracts, it should then change its rules to only require a Form 471 for the first year of the contract. The additional Form 471s serve no real purpose and put an unnecessary burden both on the Billed Entity, and on the Schools and Libraries' review process.

## V. THE COMMISSION SHOULD CLARIFY THAT SERVICE PROVIDERS CAN BILL AFTER THE SERVICE HAS BEEN APPROVED BUT BEFORE ALL SERVICES HAVE BEEN DELIVERED.

There is some confusion over whether it is acceptable for a service provider to bill Schools and Libraries after service has been approved, but before all services have been delivered. The FCC should clarify that such a process is permitted.

Many service providers use other third party vendors to provide high-speed circuits. The service provider often must pay for that circuit every month. As a result, they are expending money to provide the service as soon as the service begins. If the service provider cannot be reimbursed from Schools and Libraries in a timely manner, it presents severe cash flow issues. Also most end of service dates are June 30, which is also end of the fiscal year. If Service Providers have to wait until all services have been received, invoicing would be done in the next fiscal year which has caused issues for the Billed Entities closing out their fiscal years.

## VI. CONCLUSION

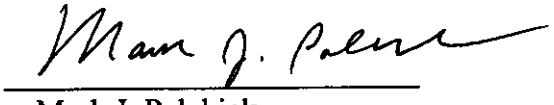
OERC thanks the Commission for the opportunity to participate in this very important process. OERC has seen the very real and substantial impact that the E-rate program has had in the improvement of education in the United States. We need to continue to build on that success and ensure that the E-rate program continues to meet its stated purpose—To improve

education in the United States and to provide schools and libraries with access to telecommunication and internet services needed to educate our population.

To accomplish this goal, OECN recommends that: (i) Wireless Access within the schools continue to be a Priority One Service; (ii) Audits and Reviews need to be more efficient and consistent with no need for multiple PIA inquiries for the same contract; (iii) The funding process should more closely track the school year; (iv) Three to Five year multiyear contracts should continue to be permitted; (v) A single Form 471 should suffice for a multiyear contract; and (vi) Service Providers should be permitted to bill Schools and Libraries after funding has been committed, but need not wait until all services have been delivered.

Respectfully submitted,

Ohio E-Rate Consortium

By: 

Mark J. Palchick
Rebecca Jacobs

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cc (all via electronic mail): Kimberly Scardino
Cara Voth
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James Bachtell
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# Exhibit I

# Ohio E-Rate Consortium

Area Cooperative Computerized Educational Service System

Hamilton County Educational Service Center

Licking Area Computer Association

Lake Geauga Computer Association

Metropolitan Dayton Educational Cooperative Association

Metropolitan Educational Council

Miami Valley Educational Computer Association

North Central Ohio Computer Cooperative

North Coast Council

Northwest Ohio Area Computer Services Cooperative

NorthEast Ohio Management Information Network

Northeast Ohio Network for Educational Technology

Northern Ohio Educational Computer Association

Northwest Ohio Computer Association

Ohio Mid-Eastern Regional Education Service Agency

Southwest Ohio Computer Association

South Central Ohio Computer Association

South Eastern Ohio Voluntary Education Cooperative

Tri-County Computer Services Association

# Exhibit II

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August 16, 2013

Marlene Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

**Re: WC Docket No. 13-184**
**Notification of *Ex Parte* Presentation**
**Ohio E-Rate Consortium**

Dear Ms. Dortch:

Pursuant to §1.1206(b)(1) of the Commission's rules, I hereby submit this notice of an oral *ex parte* presentation by the Ohio E-Rate Consortium ("OERC") to Commission staff.

On August 14, 2013 Michael Crumley and John LaPlante, representing OERC, and their counsel, Rebecca Jacobs of this firm, had a meeting at the FCC's Washington, DC headquarters with the following staff of the Commission's Wireless Telecommunications Bureau: Kimberly Scardino, Cara Voth, Alec MacDonell, Charles Eberle, James Bachtell and Michael Steffen.

The meeting was held as a follow-up to a prior meeting with Bureau staff held on April 10, 2012 at which representatives of the OERC discussed the eligibility of managed wireless access service for Priority One funding.

Prior to the meeting, the attached memorandum and diagram were sent by email to the Wireline Bureau. At the beginning of the meeting, Mr. Crumley explained that the uncertainty with regard to the eligibility of the type of managed wireless access service provided by OERC for Priority One funding has been a hardship for Ohio school districts that need wireless access in the classroom at an affordable price. The ability for schools to purchase cost-effective wireless access service to connect wireless devices in the classroom is consistent with the goals of the recent Notice of Proposed Rulemaking issued by the Commission and President Obama's ConnectEd program.[1]

Mr. Crumley explained the technical similarities between the OERC wireless access service and mobile hot spot service – a service specified as a Priority One funded service in the current Eligible Services List ("ESL"). Mr. LaPlante noted that the managed wireless access

[1] *In the Matter of Modernizing the E-rate Program for Schools and Libraries*, Notice of Proposed Rulemaking, FCC 13-100 (July 19, 2013).

service provided by OERC costs schools thousands of dollars less than comparable mobile hot spot service and is, therefore, a far more cost-effective option for schools seeking to bring wireless into the classrooms. Moreover, similar to the wireless access point utilized as part of OERC's managed wireless service, mobile hotspot services often require the installation of repeaters within individual classrooms to boost reception.

During the meeting, OERC's representatives and counsel responded to staff questions regarding the structure of the managed wireless service. The participants explained that the managed wireless service provides point-to-point wireless access service from the Information Technology Center ("ITC") facility to the end-user and provides each end user with an IP address assigned by the ITC. Since it is a managed service, the wireless access includes firewall protection and the ability to distinguish between users and allow differentiated access for guests, faculty and students which assists schools in abiding by the requirements of the Children's Internet Protection Act ("CIPA"). Mr. Crumley emphasized that the service as a whole passes the Tennessee Test. All on-premises equipment is wholly service provider owned and is never purchased or leased by the school.

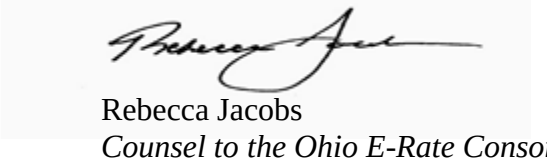
Mr. LaPlante discussed the heightened need for wireless access in schools due to the testing requirements that Ohio schools will need to meet prior to the 2014-2015 school year for the K-12 assessment system developed by the Partnership for Assessment of Readiness for College and Careers ("PARCC"). The state of Ohio is a member of the PARCC consortium of 19 states plus the District of Columbia and the U.S. Virgin Islands. Mr. LaPlante explained that in order to meet the testing requirements, which require schools to run school-wide testing over a short period of time, schools will need to increase broadband access and the number of Internet-connected devices. Since schools do not have enough physical drops in place to support wired connections, schools are looking to utilize wireless access to connect wireless devices for the testing and in some cases are preparing to do the testing using "BYOD" – Bring Your Own Device – intended to operate with any device a student brings into the school, rather than a school-provided device. Notably, the OERC managed wireless service would allow schools to provide wireless Internet access to any Internet-capable device brought by a student, rather than a specific vendor-provided device.

In response to questions from the staff, Mr. LaPlante explained that the OERC members utilize 802.11n access points for their service to avoid interference issues and that their service is capable of providing wireless connectivity to the 25-30 students on average that connect in a classroom.

Toward the end of the discussion, Mr. Crumley explained the unique nature of the OERC, which was established by the Ohio General Assembly. The OERC is comprised solely of information technology centers ("ITC") that exclusively offer services to public and non-public school districts in Ohio and are organized in accordance with the Ohio Revised Code. There are 22 regional ITCs that provide computer services to the state of Ohio.

In conclusion, OERC asserted that the managed wireless access service offered by the Ohio Service Providers is consistent with the goals proposed in the Commission's recent E-rate NPRM by offering schools a cost-effective way to bring broadband access into the classrooms. OERC hopes that the Bureau will consider formally clarifying that managed wireless service, as offered by the OERC, qualifies for Priority One funding.

Respectfully submitted,



Rebecca Jacobs
*Counsel to the Ohio E-Rate Consortium*

cc (all via electronic mail): Kimberly Scadino
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# ATTACHMENT

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July 18, 2013

**Via E-mail**

The Honorable Mignon Clyburn, Acting Chairwoman
Federal Communications Commission
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The Honorable Jessica Rosenworcel, Commissionner
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The Honorable Ajit Pai, Commissionner
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Wireline Competition Bureau
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**Re: Low-Cost Wireless Access Solution**

Ladies and Gentlemen:

The purpose of this letter is to request a meeting with FCC staff in order to clarify possible uncertainty as to whether cost-efficient Wireless Access Point service remains eligible for Priority One funding under the E-rate program.

Last month, President Obama unveiled the ConnectED program seeking to connect 99 percent of students to the Internet through high-speed broadband and wireless services within five (5) years. In order to achieve that goal, the President called upon the Commission to update the E-Rate program to make better use of existing funds in order to get connectivity into the classroom. In line with that effort, the Ohio E-Rate Consortium ("OERC") would like to follow-up on a meeting that they held with Commission staff last year to discuss OERC's low-cost wireless access solution – an innovative way to bring wireless access to the classroom and save schools and libraries hundreds of thousands of dollars in service cost.

On April 10, 2012, representatives of the OERC met with Commission staff to seek clarification from the Commission as to whether the Wireless Access Point ("WAP") service provided by members of the OERC qualified for Priority One funding.[1] OERC explained that the service met the definition of Priority One Wireless Internet Access under the Eligible Services List ("ESL") and the significant cost-savings that applicants can achieve when using the OERC-provided wireless Internet access rather than comparable mobile hotspot service. Specifically, OERC noted that the WAP service:

- Connects devices directly to the Internet;
- Has the same functionality as wired Internet service, though classroom connections to the Internet use RF rather than hard wiring for Internet connection to end-user devices;
- Is not device-specific and, thus, does not require a costly vendor-provided chip or equipment in order to connect to the Internet;
- Costs approximately one-fortieth as much as mobile hotspot service (less than $6,000 per year per 500 students for the WAP service compared to more than $230,000 for mobile hotspot service);
- Meets the definition of a Priority One eligible service which includes Wireless Internet Access that provides "Basic conduit access to the Internet"; and
- Does not use any E-rate funds to purchase equipment used in the delivery of the gateway conduit to the Internet. All equipment utilized by the service is owned by the provider, consistent with the Tennessee Test.

At the conclusion of the meeting, OERC was advised by the Commission staff that, so long as no equipment was included in the service, it could be funded as a Priority One service.

However, recently, it has come to OERC's attention that USAC may not distinguish between the type of service provided by OERC and other wireless services utilizing WAP technology that may not qualify for Priority One funding. At a USAC service provider training session held on May 7, 2013, USAC personnel stated that wireless service utilizing WAP technology is not eligible for Priority One service. In a handout released at the training (attached as Exhibit B), USAC provided an example of a service provider "devis(ing) a plan to offer several managed wireless access points in each building to be used as part of his Internet access offer" in order to inappropriately seek Priority One funding. Unlike OERC's service which does not include any charges for equipment (equipment is either provider-owned or separately purchased without E-rate funds) the diagram showed a leased router. Rather than indicating that wireless access service may qualify for Priority One funding when it does not include the cost of

[1] See Letter from Peter Gutmann to Marlene Dortch regarding Notification of Ex Parte Presentation, dated April 12, 2012. (Attached hereto as Exhibit A.)

equipment, USAC appears to have taken the position that wireless access provided with WAP technology can never qualify for Priority One funding.

OERC would like to meet with the Commission staff to clear up any confusion regarding the types of wireless access services that may qualify for Priority One funding despite the fact that they utilize WAP technology – specifically those services that do not include the cost of equipment.

We feel this clarification is especially appropriate, as connectivity through OERC's cost-effective wireless access service is directly in line with President Obama's ConnectED plan which directs the federal government to "make better use of existing funds to get technology in the classrooms." OERC supports that vision by offering schools and libraries a low-cost solution to wireless access and a potential savings of well over $200,000 for every 500 students served when compared to Mobile Hotspot solutions[2]. Moreover, OERC provides a service that does not raise issues regarding the inclusion of bundled end-user devices in service packages, as highlighted in the Public Notice *Wireline Competition Bureau Seeks Comment On The Eligibility of Bundled Components Under The Schools and Libraries Program*, released by the Commission on April 9, 2013.

For the reasons stated above, OERC requests a meeting with Commission staff to further discuss this matter.

Sincerely,

**WOMBLE CARLYLE SANDRIDGE & RICE**
***A Limited Liability Partnership***

Mark J. Palchick /Peter Gutmann

Mark J. Palchick
Partner

[2] Mobile Hotspot solutions were specifically authorized by the Commission in the 2013 Eligible Services List.

# Exhibit A

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April 12, 2012

Marlene Dortch, Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

**Re: CC Docket No. 02-6**
**Notification of *Ex Parte* Presentation**
**Ohio E-Rate Consortium**

Dear Ms. Dortch:

Pursuant to §1.1206(b)(1) of the Commission's rules, I hereby submit this notice of an oral *ex parte* presentation by the Ohio E-Rate Consortium ("OERC") to Commission staff.

On April 10, 2012 Greg Spencer, Michael Crumley and Jon Bowers, representing OERC, and their counsel, Mark Palchick and Peter Gutmann of this firm, had a meeting at the FCC's Washington, DC headquarters with the following staff of the Commission's Wireless Telecommunications Bureau: Lisa Hone, Cara Voth, Anita Pantankar-Stoll (present by speakerphone), Alec MacDonnell (present by speakerphone), Rebekah Bina and James Bachtell.

The meeting was held because the OERC is seriously concerned that the Joint Initiative of the FCC and the Department of Education to promote digital textbooks is at substantial risk unless the FCC clarifies that wireless Internet Access, other than just mobile hotspots, qualifies as a Priority One E-rate service.

Prior to the meeting, the attached memorandum and diagram were sent by email to Ms. Voth for distribution to attendees and hard copies were distributed before the meeting began. At the outset, Mr. Bowers outlined the emerging need of schools and textbook publishers to provide students with wireless access on devices of their choice. Mr. Crumley then explained the operation of the wireless Internet Access service provided by the members of the OERC to schools in Ohio.

During the rest of the meeting, OERC's representatives and counsel responded to staff questions and addressed the following areas:

- Unlike Priority Two equipment that enables direct interconnection between devices within a school facility, the proposed Wireless Access Point ("WAP") service connects devices directly to the Internet rather than to each other and therefore qualifies as Priority One.

- The proposed WAP service has the same functionality as wired Internet service, which clearly is classified as Priority One. As Mr. Palchick noted, the only difference with traditional classroom connections to the Internet is the use here of RF rather than hard wiring for the penultimate connection to the end-user device.

- The proposed service is "BYOD" – Bring Your Own Device – intended to operate with any device a student selects, rather than requiring a vendor-provided (at considerable cost) specific chip or equipment.

- Real-world experience shows that the proposed service costs approximately one-fortieth as much as mobile hotspots (less than $6,000 per year per 500 students for the WAP versus more than $230,000 for mobile hotspot service), and thus is far more cost effective and affordable to smaller school systems that lack the resources of large urban ones.

- The proposed system readily meets the definition of an eligible service in the current Eligible Services List [DA 11-1600, released September 28, 2011], which explains that:
    - "Basic conduit access to the Internet is eligible regardless of technology platform" so long as it provides for the transmission of information as part of a gateway to an information service, when the transmission does not involve the generation or alteration of the content of the information, but which may include data transmission, address translation, protocol conversion, billing management, and navigational systems that enable users to access information services;
    - Wireless Internet Access to the Internet is eligible under the same provisions as wired access;
    - Wireless Internet Access service designed for portable electronic devices is eligible if used for educational purposes and the off-campus use is removed from cost allocation; and
    - Mobile hotspot service (exclusive of hardware costs embedded in or connected to the end-user device, which OERC's proposal specifically does not include, as it is designed to work with all consumer-selected equipment) is specifically cited as illustrative, but not exclusive, of permitted Priority One service.

- Wired Internet access has always been a Priority One service where the Service Provider provides basic Internet access from the Provider-owned DMARC switch, through the Billed Entity-owned LAN switch, through the Billed Entity-owned internal wiring, through non-E-rated equipment such as a router to a wired end-user device. The proposed WAP service provides gateway conduit service in exactly the same way, except that the non-E-rated equipment attached to the Billed Entity-owned internal wiring is the WAP device, which allows connection to wireless end-user devices. That is, the only differences in the services are that one service is wired all

the way to the end-user equipment whereas the other service uses a wireless connection to the end-user. Therefore the WAP service is explicitly permitted by the ESL as a Priority One service so long as no E-rate funds are used to purchase any equipment used in the delivery of the gateway conduit to the Internet.

In conclusion, OERC asserted that the WAP service offered by the Ohio Service Provider is the most cost-effective way to provide wireless Internet access to the Ohio schools. So long as no E-rate funds are used to purchase any equipment used in the delivery of the gateway conduit to the Internet, the service, as proposed, is a Priority One service. Treatment of the WAP service as Priority Two internal connections would: (i) be contrary to the nature of the service; (ii) be contrary to the 2012 ESL; (iii) be fiscally wasteful; (iv) be contrary to the requirements of competitive parity; and (v) seriously impair the efforts of Ohio schools to move towards digital textbooks and assessments.

Respectfully submitted,

Peter Gutmann
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# MEMORANDUM

Since the 2011 Eligible Services List, wireless access service designed for portable electronic devices has been an eligible priority one E-rate service. In the 2012 Eligible Services List the FCC added Mobile Hotspots designed for portable electronics as an eligible priority one E-Rate service. Some confusion has occurred based on the 2012 Eligible Services List as to whether "Mobile Hotspot" is the only of type wireless Internet Access that is permitted as a priority one E-rate service, or whether other wireless Internet access services designed for portable devices qualify.

The Ohio ITCs would like the FCC to clarify that the Wireless Access service that they intend to provide to schools in Ohio is a priority one eligible E-rate Service. The Ohio ITCs are concerned that, unless it is made clear that wireless Internet access, whether a Mobile Hotspot or other type of wireless access is a priority one E-rate Service: (i) the Chairman's initiative to bring digital textbooks to schools will be seriously impaired; (ii) the most cost-effective method for delivering wireless access will be blocked; and (iii) one technology will be favored over another in violation of the Commission's competitive parity mandate.

## Background

The Chairman's joint initiative with Secretary of Education Duncan to bring digital textbooks into the classroom cannot be accomplished without first establishing the ability for students and teachers to connect wirelessly to the Internet. The importance and timeliness of the initiative is unquestioned. A recent white paper discussing HP Cloud Options pointed out the "increasing presence of tablet computers, smartphones and other mobile devices in the classroom" and cited to a 2011 Horizon Report asserting that "'mobiles continue to merit close attention as an emerging technology for teaching and learning,' projecting a one-year-or-less horizon for time-to-adoption."[1]

The recently released Digital Textbook Playbook highlights the key role that wireless service serves for the expansion of digital learning environments.[2] According to the Playbook, "[m]any experts believe that wireless connectivity within schools using Wi-Fi will be the prominent connection method, especially with the explosion in use of tablets and other portable devices that connect exclusively through Wi-Fi. Wi-Fi can also help keep costs down as compared with the costs of hard wiring all classrooms."[3] The Playbook specifically notes that "E-rate funding can be used to discount the costs of broadband telecommunications and Internet

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[1] *K-12 and the Cloud: A Catalyst for Transformational Change*, Hewlett-Packard Development Company, L.P. (2011), at 5, *available at* http://www.techlearning.com/uploadedFiles/TechLearning/Common/K12_Cloud_Computing_Whitepaper.pdf (citing to 2011 Horizon Report, The New Media Consortium, 2011).

[2] Digital Textbook Playbook, The Digital Textbook Collaborative, February 1, 2012.

[3] *Id.* at 27.

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services," examples of which are shown as either a 3G or 4G service or a school-based WiFi network.[4]

In the 2012 Eligible Services List ("ESL") the Commission added "Mobile hotspot service" as a type of wireless Internet access eligible for E-rate funding, recognizing the needs of schools and libraries to implement Internet access services that could service wireless devices throughout their campuses.[5] The 2012 ESL stated that "Mobile hotspot service designed for portable electronics is eligible if used for educational purposes, if off-campus use is cost-allocated. Hardware costs of the mobile hotspot embedded in or connected to the end-user device are not eligible." Relying on the 2012 ESL, schools and libraries have sought out service providers to provide wireless Internet access service, such as mobile hotspot service, and many have filed Form 470s requesting funding for the service. In addition to Sprint and Verizon, which have responded to these Form 470s by proposing wireless Internet access utilizing mobile hotspots, many other service providers have responded by offering wireless Internet access via wireless access point ("WAP") service. The Ohio Information Technology Centers ("ITC")[6] provide E-rate eligible services to Ohio schools and have responded to Form 470s requesting wireless Internet access. They now seek confirmation that the WAP service that they provide is eligible for priority one E-rate funding.

Clarifying that WAP service, like mobile hotspot service, is a priority one eligible wireless Internet access service is an essential element necessary to make the digital textbook initiative a reality. WAPs are the most: (i) cost-effective, (ii) flexible, (iii) scalable option for schools that would like to bring wireless Internet access onto their campuses. Moreover, treating them the same as mobile hotspots is required if the Commission is to maintain its long-standing policy of ensuring competitive parity.

**Wireless Access Point Service**

The Ohio ITCs currently provide Ohio schools with an E-rate-funded wired high-speed Internet service. The Internet connection for the wired service is typically owned by the ITC up until the district edge/school building at which point the ITC service connects to an ITC-owned equipment. The ITC then distributes the wired broadband service through either school-owned facilities or ITC-owned facilities. The limitations of this service are self-evident, as it is restricted to providing only wired Internet access service to a school population that utilizes only wired devices. As described above, the FCC and others have conclusively found that the uses of

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[4] *Id.* at 29, 38.

[5] *Schools and Libraries Universal Service Support Mechanism Eligible Services List for Funding Year 2012* ("2011 ESL") (Sept. 28, 2011) at paragraph 21.

[6] Information Technology Centers ("ITCs") comprise the Ohio Education Computer Network ("OECN"), which was established by the Ohio General Assembly to (i) promote the value and benefits of the OECN; (ii) advocate for continuous improvement; (iii) support statewide technology programs and initiatives; and (iv) promote innovative technologies, partnership arrangements, and cooperative purchasing agreements to help support the technology initiatives of the OECN and Ohio schools. The ITCs act as service providers to many Ohio E-rate Billed Entities,

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wireless technologies, including digital textbooks, are in the schools' and the nation's best interests. Accordingly, Ohio schools have sought options to service the population of students and teachers seeking to connect wireless devices to the Internet. These schools have submitted FCC Form 470s requesting the ability to meet these needs. In response to the posted 470s, Ohio ITCs have successfully bid and entered into contracts for service to provide wireless Internet access to schools which service both the schools and student-owned end-user devices. The end result is that student- and school-owned wireless devices located within the campus will be able to connect to the Internet.

The WAP service is purely to provide wireless Internet access and does not include separate charges for equipment.[7] The ITC-provided broadband then runs from the district-owned switch through district-owned fiber within the building. The ITC then connects wireless access points to the district-owned fiber at various points within the building. The wireless access points distribute wireless Internet access to wireless devices throughout the building. In Distribution Scenario 2 the ITC provides ITC-owned fiber from the ITC cloud to the district edge and then installs ITC-owned fiber (non E-rated) alongside district-owned fiber (also not E-rated) within the building. The wireless access points then connect to the ITC-owned fiber and then distribute broadband access wirelessly to end-user devices within the building.

**Eligibility As A Type Of Wireless Internet Access Service**

The WAP service provided by the ITCs is a type of wireless Internet access, which fits within the parameters laid out in the 2012 ESL and therefore should be eligible for E-Rate funds under the 2012 ESL. The WAP service is designed to deliver wireless Internet to portable electronics that are used by students and employees on the schools' campuses for educational purposes. The *Order* which implemented the 2012 ESL determined that, "mobile-hotspot service is eligible because it is a type of eligible wireless Internet access service that provides basic conduit access to the Internet."[8] The WAP service, likewise, is a type of wireless Internet access service that provides basic conduit access to the Internet for wireless devices that would otherwise not be able to access the Internet. As stated in the *Schools and Libraries Universal Service Support Mechanism Second Report and Order and Further Notice of Proposed Rulemaking*: "reasonable requests for any supported service – over any technology platform – to be used by any school or library staff while in a library, classroom, or on school or library property, shall be eligible for discounts."[9]

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[7] All wireless service is capacity- and environmentally-dependent. As the number of devices that are connected through to the Internet increases so does the bandwidth required. Each WAP device is restricted in the number of wireless devices it can connect through to the Internet. Accordingly, some ITCs base their Internet usage charges (*i.e.*: the capacity required) on the number of devices deployed. There is no charge for the equipment, just for the capacity back to the Internet.

[8] *2012 ESL Notice*. at ¶21.

[9] *See Schools and Libraries Universal Service Support Mechanism, CC Docket No. 02-6, Second Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 9202, 9209 (2003), at ¶19.

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**WAP Technology Allows ITCs To Provide Managed Wireless Internet Access to the School Campus**

The wireless access point equipment used by the ITCs is smart technology. It is not simply the equivalent of a wireless router that passes through the wired Internet service already provided by the ITC. Utilizing the WAP equipment, the ITC manages the wireless Internet access in a variety of ways that provides the school with flexibility to address any access concerns and ensures that the school is fully compliant with the Children's Internet Protection Act[10] requirements. Specifically, the ITC uses IP protocol management to separate traffic into at least three distinct groups: guest traffic, student traffic and staff traffic. This IP protocol management is at the heart of Internet access service. The ITC also ensures firewall management (eligible for E-rate funding as part of the Internet access service), which is particularly important when Internet access is expanded wirelessly. The ITC ensures that the wireless network maintains a security level equal to or greater than the security level achieved in the wired Internet access service.

**WAP Service Is Significantly More Cost-Effective Than Mobile Hotspot Service**

The cost of the WAP service for schools is significantly more cost-effective than mobile hotspot service. Notably, the WAP service is device-neutral – meaning that the schools may introduce any device capable of accessing the Internet wirelessly in order to use the service. In contrast, the devices that use mobile hotspot service must be capable of accessing a particular provider's network and are accordingly limited to specific devices. Below is a comparison of the cost of service for three providers: an ITC, Sprint and Verizon. The Sprint and Verizon figures were derived from E-rate bid contracts currently in place with some schools in Ohio.

**Ohio ITC (based on 500 students)**

- Wireless Internet Access Service (device-neutral) - $460/mo
- Total Average Annual cost - $5,520

**Sprint Wireless Program (based on 500 students)**

- Mobile Hotspot Service (includes 500 netbook devices)[11] - $21,495/mo ($42.99/unit/mo)
- Total Annual Cost - $257,940

**Verizon Wireless Program (based on 500 students)**

[10] 47 CFR §§54.520(c)(1)(i), 54.520(c)(2)(i).
[11] The contracts signed with Ohio schools do not break out the individual cost for the netbook devices (which are non-e-ratable) from the cost for service.

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- Mobile Hotspot Service - $19,975/mo ($39.95/unit/mo)
- Total Annual Cost for service - $239,700

**The WAP Service Is Not Duplicative Of Wired Internet Access Service**

The 2003 *Second Report and Order and Further Notice of Rulemaking* defined "duplicative services" as "services that deliver the same functionality to the same population in the same location during the same period of time."[12] While the WAP service is delivered to the same location as the wired Internet service, the WAP service does not have the same functionality as the wired service nor does the WAP service address the same population as the wired service. While in the case of wired Internet access, an end user device must be able to physically connect to a wired connection in order to receive Internet access, an entirely different population of end-user devices can connect wirelessly via the WAP service. Accordingly, the two services do not constitute duplicative services.

**Competitive Parity Requires That The WAP Service Be Treated No Differently Than Any Other Wireless Internet Access.**

The functional differences between "mobile hotspots," wired Internet access, and the wireless Internet access provided by the WAP service are virtually non-existent. The Commission has already stated that the mobile hotspots are an eligible type of Internet access because it provides basic conduit access to the Internet. The WAP service similarly provides basic conduit access to the Internet. Moreover, it provides basic conduit at a lower cost and with greater functionality than "mobile hotspots." If the Commission fails to acknowledge that the WAP service is an eligible priority one service it would be favoring one, more expensive and less functional, technology over another.

For the reasons stated above, it is respectfully requested that the FCC acknowledge that the WAP service, as described above, is eligible as a priority one E-rate Service.

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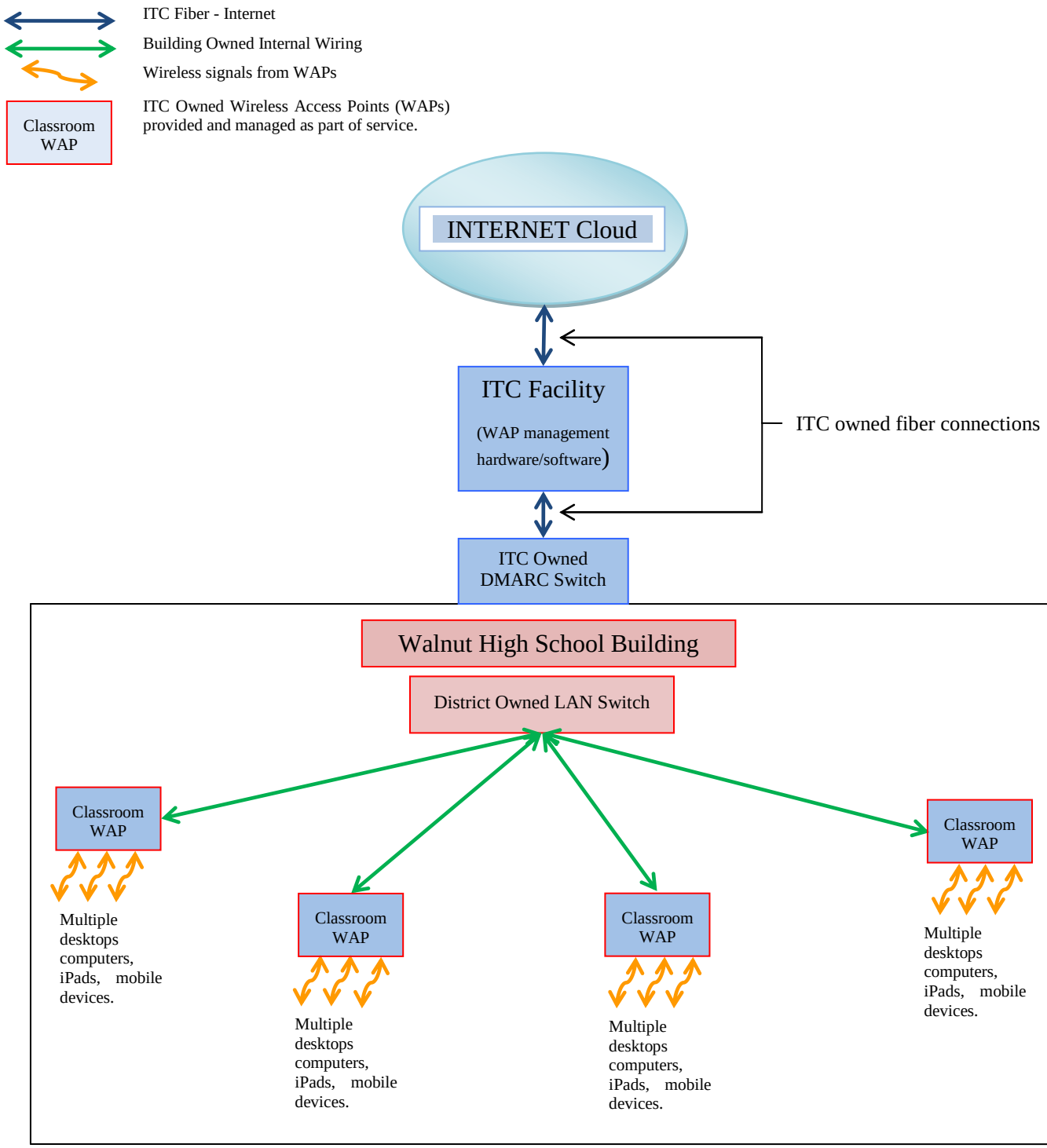
[12] *See Schools and Libraries Universal Service Support Mechanism, CC Docket No. 02-6, Second Report and Order and Further Notice of Proposed Rulemaking*, 18 FCC Rcd 9202, 9209 (2003), at ¶22.

# Wireless Distribution via WAP

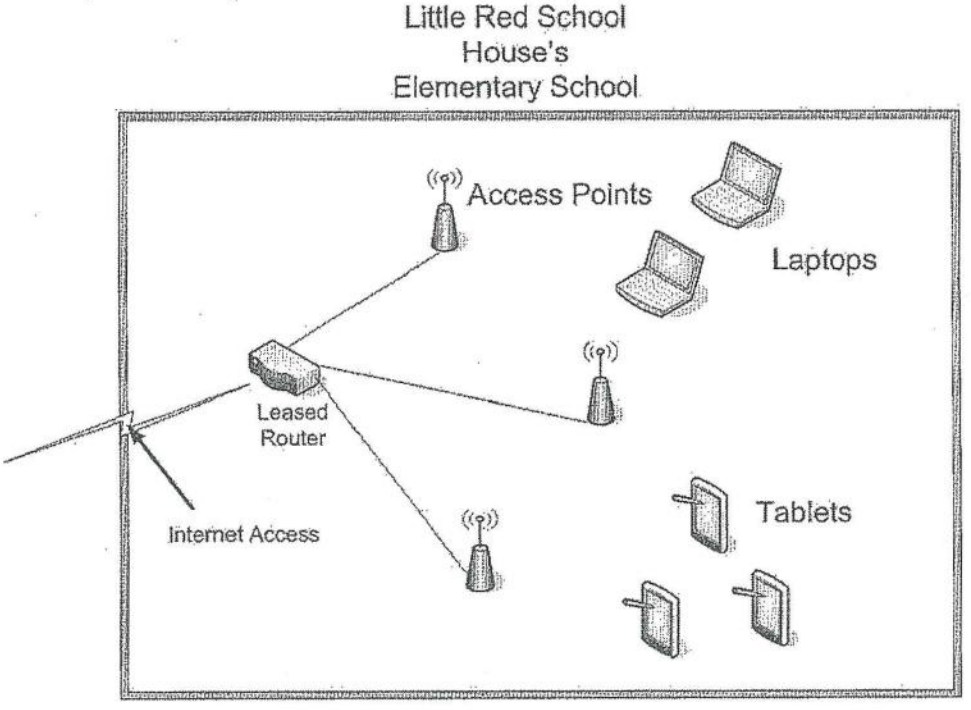


# Exhibit B

## STORY #2: Putting Together the Bid

### Red School District

The Red School District posted for the purchasing of wireless access points on their FCC Form 470 as Internal Connections. Mr. Salmon of Fish's Wiring and Live Bait noticed that the Red School District had a shared discount of 60% which made he deemed as unlikely to receive Internal Connections funding given the demand of funds for Priority One services and demand from entities in the 80-90% discount range. Mr. Salmon devised a plan to offer several managed wireless access points in each building to be used as part of his Internet access offer.




### Green Library

Mrs. Forest at the Green Library posted for Internet access on her FCC Form 470 to make sure she had enough service for her patrons. Mr. Moss, the consultant, attended the Schools and Libraries Service Provider training in 2012 and remembered an excellent presentation about eligible services and specifically that firewall service is only eligible if it is part of the standard offering of Internet access. Mr. Moss recalled that his vendor client, World Wide Spider Web sold firewall services to their clients and was preparing their bid to provide service to Green Library. Mr. Moss advised World Wide Spider Web to take the cost of the firewall service and bundle it into the cost of their Internet access solution.